

In the Claims:

Cancel claims 7-17 and add the following new claims:

Claims 7-17 (canceled)

18. (new) A method of simulating a missile by means of a missile simulator during testing of an aircraft which includes a weapon system for controlling missiles with which the aircraft may be equipped, the method comprising:

- i) generating a target seeker command position for a target seeker in the missile, whereby the target seeker is commanded to adopt a predetermined position;
- ii) simulating the behavior of the missile in a computer model to generate an actual value signal adapted to the weapon systems;
- iii) generating a trouble signal from a deviation between the target seeker command position and the actual value signal;
- iv) using the trouble signal as a control signal for the target seeker; and
- v) repeating steps ii) – iv).

19. The method in accordance with claim 18, wherein the trouble signal is measured continuously and wherein sampled values for a vector indicating error in amplitude ( $A$ ) and error in phase angle ( $\varphi$ ), which represent a difference between a vector  $S^C$  corresponding to the target seeker command position and a vector  $S_O$  corresponding to the actual value signal, are determined and sent to the computer model in the missile simulator.

20. (new) The method in accordance with claim 19, wherein for each trouble signal, the computer model determines a corresponding actual value signal.

21. (new) The method in accordance with claim 20, wherein for each trouble signal the computer model determines a new vector  $S^C$  including an amplitude and a phase angle of the new target seeker command position.

22. (new) The method in accordance with claim 20, wherein a time-continuous actual value signal is reproduced from a time-discrete vector from the computer model.